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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,686	11/25/2003	Francois Kotian	14XZ129714/130264(GEMS-01	6159

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EXAMINER	
KAO, CHIH CHENG G	

ART UNIT	PAPER NUMBER
2882	

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/721,686	KOTIAN ET AL.	
	Examiner	Art Unit	
	Chih-Cheng Glen Kao	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19,21-29 and 32-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19,21-29 and 32-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1, 2, 4-6, 8-10, 12, 22, 24, 28, 32, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen (US Patent Application Publication 2002/0085681) in view of Hinton et al. (US Patent 5485502).

2. Regarding claims 1 and 4, Jensen discloses a method and device comprising driving a mobile support (fig. 1, #12) completely along a given movement (paragraph 29) with respect to an object (fig. 1, #22), processing a complete sequence of images of a region of the object acquired by a means for detection (fig. 1, #34) during movement of the mobile support to reconstitute a 3D model of the region (paragraph 32), driving the mobile support so that it carries out the continuous complete rotation movement repetitively (fig. 8, #305 and 350) to form a periodically refreshed complete 3D model of the object (paragraph 53, last 6 lines) around a necessary means for supporting the object (fig. 1, #22), and determining all functional parameters associated with the region of interest, starting from the series of three-dimensional models (paragraph 56, lines 1-4).

However, Jensen fails to disclose movement with respect to a means for supporting an object.

Hinton et al. teaches movement with respect to a means for supporting an object (col. 2, lines 15-19, and fig. 1, #40).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method and device of Jensen with the movement of Hinton et al., since one would be motivated to make such a modification to prevent damage in collisions (title) as implied from Hinton et al.

3. Regarding claims 5, 6, 8, 9, 12, 22, 28, and 32, Jensen further discloses a sequence of 2D images (claim 6) continuously memorized or stored, on a sliding window, corresponding to a number of images necessary for reconstitution of a 3D model (paragraph 52, lines 11-13), and processing is applied for continuous reconstitution of a 3D model on this sliding window (fig. 8, #345 or 350).

4. Regarding claims 2, 10, and 24, Jensen further discloses the mobile support driven along a sequence of half rotations, alternately in one direction and in the other direction (paragraph 55) around the necessary means for supporting the object (fig. 1, #22).

5. Regarding claims 34 and 35, Jensen further discloses wherein driving is performed during an interventional procedure (paragraph 8).

6. Regarding claim 36, Jensen further discloses wherein the processing a complete sequence of images to reconstitute a 3D model of the region comprises reconstituting a series of 3D models (paragraph 53), one for each half rotation (paragraph 55).

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Hinton et al. as applied to claim 12 above, and further in view of Deucher et al. (US Patent 5220588).

Jensen as modified above suggests a device as recited above.

However, Jensen fails to disclose electrical power with a commutator/brush.

Deucher et al. teaches electrical power with a commutator/brush (abstract, line 1).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Jensen as modified above with the brushes of Deucher et al., since one would be motivated to make such a modification for longer device life (col. 2, lines 56-57) as shown by Deucher et al.

8. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Hinton et al. and Deucher et al. as applied to claims 12 and 13 above, and further in view of Noegel et al. (US Patent Application Publication 2002/0085682).

Jensen as modified above suggests a device as recited above.

However, Jensen fails to disclose means for optically connecting or a radio frequency link through which means for control and/or means for processing exchange data with a source and/or means for detecting.

Noegel et al. teaches means for optically connecting or a radio frequency link through which means for control and/or means for processing exchange data with a source and/or means for detecting (paragraph 37).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Jensen as modified above with the means for exchanging data of Noegel et al., since one would be motivated to make such a modification to simplify the data transmission interface (paragraph 15) as shown by Noegel et al.

9. Claims 18, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Hinton et al. and Deucher et al. as applied to claims 12 and 13 above, and further in view of Noegel et al. and Pearson et al. (US Patent 6301324).

Jensen as modified above suggests a device as recited above. See, in particular, paragraphs 7 (for claims 18 and 19) and 5 (for claim 21) above.

However, Jensen fails to disclose a brush/commutator.

Pearson et al. teaches a brush/commutator (col. 4, line 67, to col. 5, line 4).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Jensen as modified above with the brush of Pearson et al., since one would be motivated to make such a modification for efficiency and cost effectiveness (col. 2, lines 24-26) as implied from Pearson et al.

10. Claims 23, 25, 29, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Hinton et al. as applied to claim 22 above, and further in view of Cenic et al. ("Dynamic CT Measurement of Cerebral Blood Flow: A Validation Study").

Jensen as modified above suggests a method and device as recited above. See, in particular, paragraphs 4 (for claim 25), 3 (for claims 29 and 33) and 5 (for claim 31) above.

However, Jensen fails to disclose choosing a region of interest at a blood vessel, determining an arterial input function at a chosen region of interest, deconvoluting a signal with an intensity variable with time using the arterial input function, and determining a residual impulse function to calculate functional parameters.

Cenic et al. teaches choosing a region of interest at a blood vessel, determining an arterial input function at a chosen region of interest (page 65, col. 2, line 14), deconvoluting a signal with an intensity variable with time using the arterial input function (page 65, col. 2, lines 13-15), and determining a residual impulse function to calculate functional parameters (page 65, col. 2, "R(t)").

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method and device of Jensen as modified above with the choosing, determining, deconvoluting, and determining of Cenic et al., since one would be motivated to make such a modification to increase accuracy of measurement (title and conclusion) as implied from Cenic et al.

11. Claims 3, 7, 11, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Hinton et al. and Cenic et al. as applied to claims 1, 9, 22, and 23 above, and further in view of Kruger et al. (US Patent 4577222).

Jensen as modified above suggests a method and device as recited above. See paragraph 5 for claim 7.

However, Jensen fails to disclose a mobile support driven so as to apply a repetitive conical movement of revolution to an axis passing through a focal point of a source and through a center of a means for detection.

Kruger et al. teaches a mobile support (fig. 1, #15) driven so as to apply a repetitive conical movement of revolution (fig. 2, and col. 4, lines 9-15) to an axis passing through a focal point of a source (fig. 1, #110) and through a center of a means for detection (fig. 1, #120).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method and device of Jensen as modified above with the conical movement of Kruger et al., since one would be motivated to make such a modification to obtain a better view (col. 1, lines 38-43) as implied from Kruger et al.

Response to Arguments

12. Applicant's arguments with respect to claim 36 have been considered, but are moot in view of the new ground(s) of rejection. Applicant's arguments filed 12/22/05 have been fully considered but they are not persuasive.

Applicant argues that Jensen fails to disclose the repetitive complete movement to form a periodically refreshed complete 3D model of the object, which is directed to a carrying out of the

entire given movement repetitively. The Examiner disagrees. Jensen discloses the advancement from a last position to a next incremental position, which reads on the above, since each incremental movement is interpreted as a complete or entire given movement. The incremental movements are a repetition of a complete or entire 5^{o} given rotational movement. Applicant's arguments are not persuasive, and the claims remain rejected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gk

EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER